

## A Review of *Glaphyra hattorii* (Coleoptera, Cerambycidae), with Description of a New Subgenus

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**Abstract** A new subgenus, *Yamatoglaphyra* nov. is established for *Glaphyra hattorii* (OHBAYASHI) for the reason of such peculiarities as the fine velvety pubescence on the antennae starting from segment 3, the vestigial prosternal process, the simple anal vein of the hind wing, and the markedly elongate male genital organ. The lectotype of *G. hattorii* is designated in view of the loss of the holotype. Two components of the new subgenus are redescribed.

### Introduction

*Glaphyra hattorii* (OHBAYASHI, 1954) is a rather rare molochine monophagous on *Elaeagnus* (Elaeagnaceae), and is known to occur in eastern Honshu and southern Hokkaido of the Japanese Islands. Though having unicolored small black body ordinary looking in facies at first sight, *G. hattorii* is provided with such highly specialized structures as the fine velvety pubescence on the antennae starting from segment 3, the vestigial prosternal process, the simple anal vein of the hind wing, and so on. It is doubtless that a new higher taxon should be proposed for *G. hattorii* since its autapomorphies are clearly discriminated from those of any other congeners of the genus *Glaphyra* NEWMAN.

The main purpose of the present paper is to erect the subgenus *Yamatoglaphyra* nov. for *G. hattorii*, and also to redescribe two components of the new subgenus, with designation of the lectotype for the type species.

### Subgenus *Yamatoglaphyra* nov.

Type species: *Molorchus hattorii* OHBAYASHI, 1954.

Small-sized molochine of wholly blackish coloration, with relatively short appendages. Colour black to blackish brown, more or less dull, without maculation on elytra. Hairs and pubescence sparse in general, without pubescent maculation on pronotum and ventral surface; antennae, clothed with fine velvety pubescence from segment 3 to terminus.

Head less voluminous with large but weakly prominent eyes, almost equal in width to the base of pronotum; genae very shallow; mandibles short, briefly hooked at apices; maxillary and labial palpi relatively short. Antennae as long as or slightly

longer than body in ♂, 11-segmented, slightly broadened towards apical segments, with scape hardly clavate, middle segments compressed, terminal segment simple, not pedunculate at the extremity in ♂. Pronotum elongate, moderately narrowed apicad, with small tubercles at sides behind middle, with disc almost evenly punctured except for the smooth areas at sides and posterior to middle. Elytra long, about 1.4 times as long as wide, attaining to abdominal tergite 3, completely covered with the sides of metathorax, narrowly dehiscent at least in apical fifth, completely flattened in profile even near apices. Hind wing reaching tergite 6, with simple vein  $1A_3+2A$ , and without vein 3A. Prosternal process vestigial, invisible in external view. Legs with hind femur weakly clavate, tarsal segments short.

Median lobe of male genital organ markedly long and slender, elongate, with long median struts, dorsal plate simply narrowed apicad. Tegmen with paramere saturate-formed, with a few very short setae at apex. Tergite 8 longer than wide. Sternite 8 subquadrate, concave at middle of apical margin.

*Range.* Japan: S. Hokkaido (Oshima Pen.) and E. Honshu; China: Sichuan and Gansu.

*Notes.* It may be possible to establish a full genus for *G. hattori* because of such highly specialized character states as mentioned above. It is doubtless that the pubescence on the antennae, the vestigial prosternal process and the wing venation in the type species are all autapomorphies separable from any other congeners of *Glaphyra*. In the members of the nominotypical subgenus, the fine velvety pubescence on the antennae starts from segment 4 or 5, the prosternal process is usually well developed, and the hind wings are provided with well developed vein 3A. The new subgenus is composed of the following two isolated species from Japan and China.

### *Glaphyra (Yamatoglaphyra) hattori* (OHBAYASHI, 1954)

(Figs. 1–3, 5–6)

*Molorchus* (s. str.) *hattori* OHBAYASHI, 1954, Ent. Arb. Mus. Frey, 5, p. 13; type locality: Inadanoborito, Tokyo [sic; correctly Kanagawa].

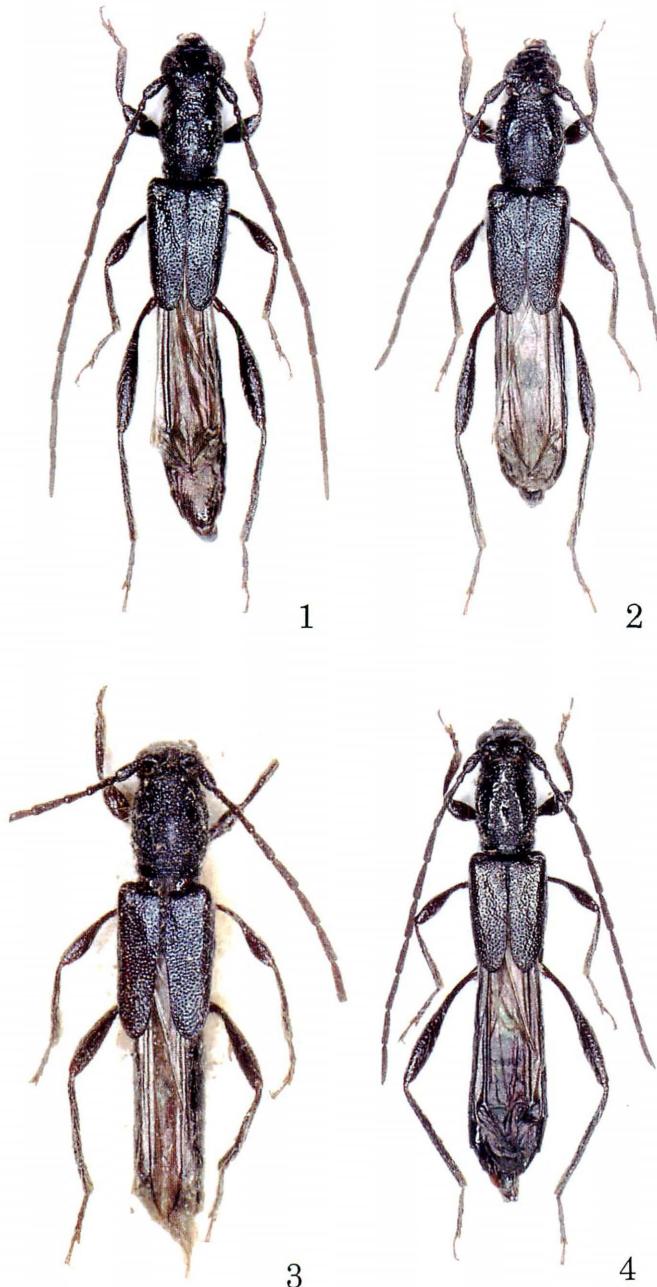
*Glaphyra hattori*: HAYASHI, 1983, Check-list Coleopt. Japan, (24), p. 11.

*Glaphyra* (subgen.?) *hattori*: NIISATO, 1992, Illustr. Guide Longic.-Beetl. Japan, p. 492.

Body length 5.0–8.4 mm (from apical margin of clypeus to abdominal apex).

Small to medium-sized species of relatively slender body. Colour black to brownish black, weakly shiny, with faint dark bluish green tint on elytra, almost always chestnut brown on appendages, tarsi and palpi yellowish brown. Hairs in general long, rather sparse and silvery white in colour, especially long and erect on head, pronotum and at elytral bases.

*Male.* Head moderate, as wide as the maximum width of pronotum, scattered with coarse punctures; frons 3/4 the length of the basal width, flattened, with a fine weak median groove, usually smooth on anterior half; clypeus strongly transverse, arcuately emarginate at both basal and apical margins; genae 1/3 the depth of lower eye-



Figs. 1-4. *Glaphyra (Yamatoglaphyra)* species. —— 1, *G. (Y.) hattorii* (OHBAYASHI), ♂ from the Oshima Pen. of Hokkaido; 2, ditto, ♀ from Aomori of N. Honshu; 3, ditto, lectotype ♀ from Tsukechi of Gifu Pref., C. Honshu; 4, *G. (Y.) aemulata* HOLZSCHUH, ♀ from Gansu, NW. China.

lobes in frontal view. Antenna rather stout, nearly equal in length to body, with pale brown velvety pubescence on apical eight segments; scape conical, coarsely punctured, slightly longer than segment 3 and equal in length to segment 4, segments 3 and 4 distinctly thickened apicad, segments 5–9 more or less compressed, segments 6 and 7 (or 8) nearly equal in length and the longest, 1.4 times as long as scape, terminal segment hardly arcuate.

Pronotum moderately long, 1.6 times as long as apical and 1.2 times as long as maximum width, slightly contracted to apex; sides almost straightly dilated to blunt lateral tubercles at basal 7/20, then arcuately narrowed to basal collar; disc weakly convex, almost always raised at middle and sides of basal fourth, sometimes at the sides of apical fourth, closely coarsely punctured throughout except for the longitudinal smooth area just behind middle and two pairs of rounded ones at sides before and behind middle, though the lateral smooth areas are sometimes connected or inconspicuous according to individuals. Scutellum small, spatulate, densely pale pubescent.

Elytra long, 1.4 times as long as the humeral width, attaining to the base of tergite 3; sides with weakly but roundly produced humeri, almost straightly narrowed to apical 2/7, then arcuately narrowed to separately rounded apices, with suture narrowly dehiscent in apical 3/14; disc completely flattened in profile, rather widely depressed near suture behind scutellum, gently so on oblique part near middle, closely coarsely punctured throughout.

Venter of thoraces closely and heavily punctured, with strong transverse furrows on prosternum, densely pale pubescent on mesothorax and near hind coxae. Abdomen elongate, arcuately dilated apicad in basal three ventrites, then arcuately narrowed to anal ventrite which is widely emarginate at apical margin, rather sparsely provided with large punctures and pale hairs.

Legs rather stout; hind pair with femur weakly clavate in apical 3/5, tibia densely provided with minute dents, 1st segment of tarsus a little shorter than the following two combined.

Male genital organ moderately sclerotized and remarkably elongate, with median lobe a little less than half the length of abdomen. Tergite 8 with weakly rounded apical margin which bears several medium-sized setae. Sternite 8 separately rounded at apical margin due to deep median concavity, with each lobe provided with short to medium-sized setae. Median lobe markedly slender except for somewhat thickened base, weakly arcuate in profile, with dorsal plate almost straightly narrowed to the subtruncate apex, which exposes the blunt apical part of ventral plate; median struts slender, a little less than a half the length of median lobe. Tegmen with paramere elongate spatulate, slightly thickened toward apex, which is provided with two very short setae.

Female. Antennae more slender than in ♂, reaching the base of tergite 5. Pronotum shorter than in ♂, with length 1.5 times at apical or 1.2 times at the maximum width; sides gently arcuately dilated to very weak tubercles at basal 5/2. Abdomen fairly arcuate at sides, with anal ventrite truncate at apex.

*Lectotype designation.* *Glaphyra hattori* (OHBAYASHI, 1954) was originally de-

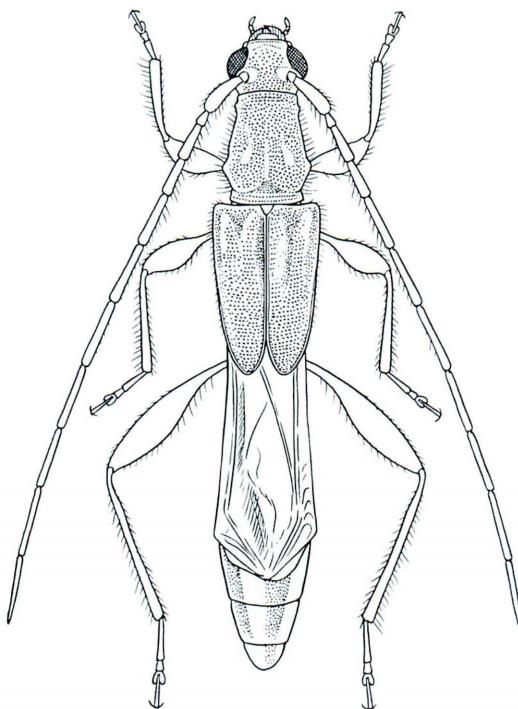


Fig. 5. *Glaphyra (Yamatoglypha) hattorii* (OHBAYASHI), ♂ from Minamiaizu, Honshu.

scribed under the genus *Molorchus* on the basis of two female specimens collected at two different localities, "Inadanoborito, Tokyo" and "Tsukechi, Gifu". The holotype from Inadanoborito was preserved in the private collection of Hitoshi HATTORI and the paratype from Tsukechi is in the author's collection as was mentioned in the original description. According to a personal communication from Mr. H. HATTORI, the holotype specimen in his private collection was lost more than thirty years ago. Therefore, I would like to designate the female paratype from Tsukechi as the lectotype of this species. This lectotype specimen was illustrated in OHBAYASHI (1963, pl. 144, fig. 19).

Lectotype: ♀, *Molorchus hattorii* OHBAYASHI: "Tsukechi/Gifu/V.3.1952/H. Ohira leg." "Paratype (yellowish orange card)" "Molorchus (s. str.) hattorii mihi / DET. K. OHBAYASHI" "Ohbayashi-zu 251". The following two labels are added to the lectotype: "LECTOTYPE / *Molorchus hattorii* OHBAYASHI, 1954 (red card)" and "*Glaphyra (Yamatoglypha) hattorii* (OHBAYASHI, 1954) / Det. T. NIISATO, 2006. The lectotype is at present preserved in the Entomological Laboratory, Ehime University, Matsuyama.

*Specimens examined.* [Hokkaido] 12♂♂, 3♀♀, Haraguchi, Matsumae-chō, Oshima Pen., Hokkaido, N. ISHIHAMA leg.; 35♂♂, 19♀♀, same locality and collector as the preceding, 29-V-1996. [Honshu] 2♂♂, 2♀♀, Hirataki-mura, Kizukuri-machi, Nishitsugaru-gun, Aomori Pref., N. Honshu, 18-V-1996, R. MIKAMI leg.; 1♂, 1♀,

Yoshizumi-chō, Yonezawa City, Yamagata Pref., 21-IV-1984, K. YOSHIKAWA leg.; 2♂♂, 4♀♀, Yunohana-Hinoemata, Minamiaizu-gun, Fukushima Pref., 22~23-V-1982, H. MIURA & M. TAKEDA leg; 2♀♀, Shimobe, Yamanashi Pref., C. Honshu, host coll. in XI-2003, emerged out in IV-2004, T. NIISATO leg.; 1♂, 1♀, Kaida-kōgen, Kaida-mura, host collected in V-1982, emerged out on 24~26-IV-1983, K. YOSHIKAWA leg.; 1♂, 1♀, Yokoi Sports Park, Shimada City, Shizuoka Pref., 17-IV-1988, K. ICHIKAWA leg.; 3♂♂, 4♀♀, Tokunokuchi, Ishikawa Pref., C. Honshu, 12-V-1990, M. IMURA leg.; 1♀ (lectotype designated above), Tsukechi, Gifu Pref., 3-V-1952, H. ŌHIRAKAWA leg.

*Distribution.* Hokkaido (Oshima Pen.) (new record) and E. Honshu, Japan.

*Host plants.* *Elaeagnus multiflora* THUNB. var. *crispa* (MAXIM.). It is most probable that *G. hattori* is monophagous on *E. multiflora* or at least on *Elaeagnus* shrubs. The report of *Acer aidzuense* may be misidentification of the *Elaeagnus* species (nec YUZAWA, 1977).

*Notes.* No geographical variation is shown in the specimens listed above. The specimens from various localities of East Japan as listed above perfectly agree in every respect in the coloration, body size and other external morphology.

This species was considered to be one of the rarest species in the Japanese molorchines until the discovery of the host plant in 1982 by the late Kenichi EMOTO. For instance, the habitat at the type locality near "Inadanoborito" was deteriorated by urbanization, and only a few additional specimens were collected before the 1970's. Larvae of *G. hattori* are easily found at present from freshly dead twigs of *E. multiflora*. However, natural habitats of *G. hattori* are generally much limited, and usually threatened by the impact of collectors.

### *Glaphyra (Yamatoglapheya) aemulata* HOLZSCHUH, 1998

(Fig. 4)

*Glaphyra aemulata* HOLZSCHUH, 1998, FBVA-Berichte, (107), p. 38, fig. 48; type locality: "China, Sichuan, Nanping: Jiuzhaigou, 2500 m".

Body length 6.2–7.4 mm. Closely related to *G. hattori* in coloration, arrangement of pubescence and conformation of body, but barely discriminated by the following characteristics: 1) Antennae longer and slenderer, exceeding body at segment 10 in ♂ or reaching the base of tergite 6 in ♀; 2) pronotum longer, 1.4 times in ♂ or 1.3 times in ♀ as long as the width across blunt lateral tubercles behind middle, with discal punctuation weaker than that of *G. hattori*. Such other characters as the relative length of antennal segments shown in the original description cannot be used for differentiation, at least in the additional specimen examined.

*Additional specimen examined.* 1♀, Liujiaping (劉家坪), 2,000 m in alt., Wen Xin, Gansu Prov., 27-VI-1998, W.-I CHOU leg.

*Distribution.* Sichuan and Gansu (new record for the province), China.

*Notes.* The single additional specimen examined from Gansu Province doubtless belongs to this species since no difference was observed in comparison with the

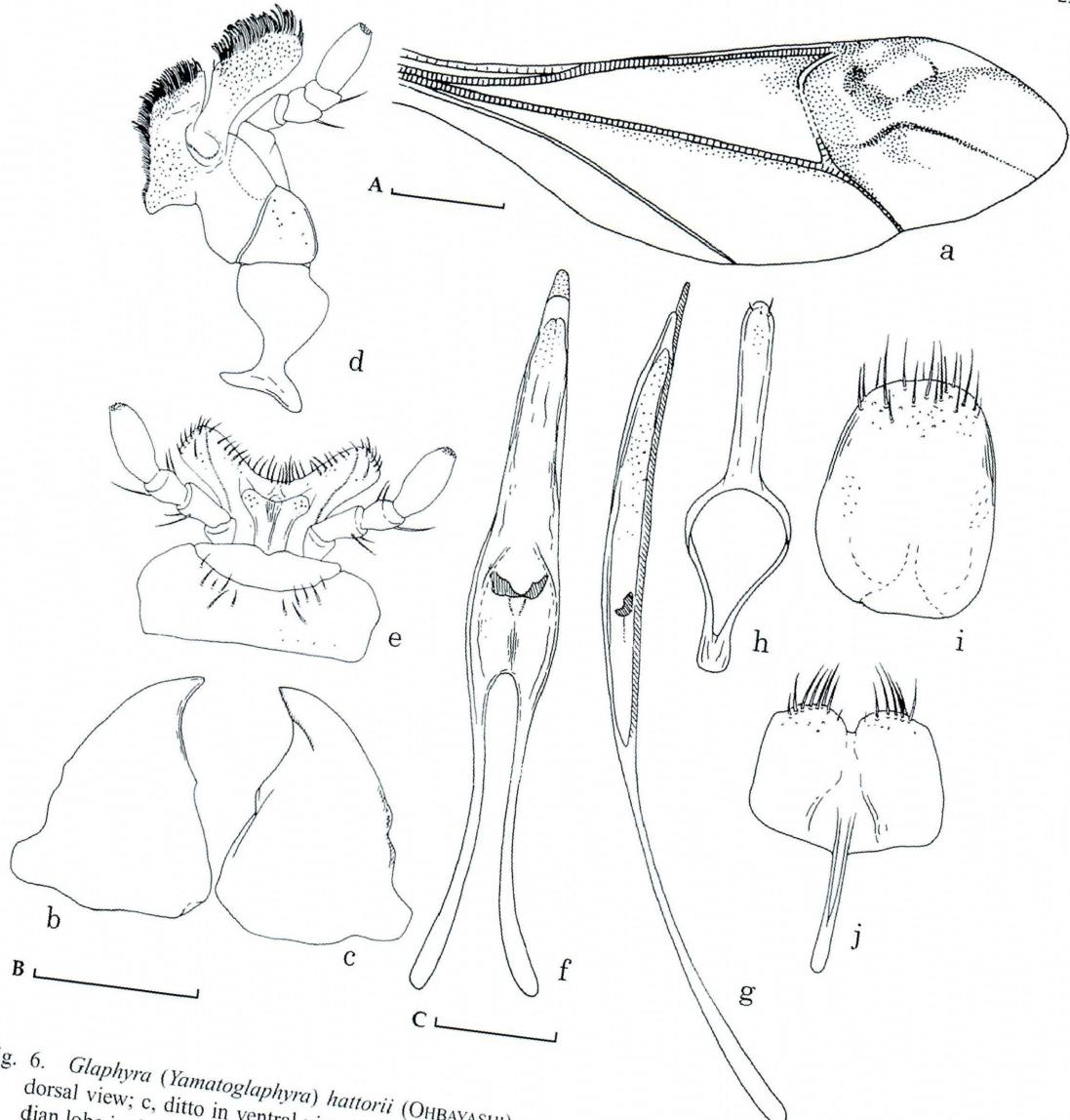


Fig. 6. *Glaphyra (Yamatoglaphyra) hattorii* (OHBAYASHI). — a, Right hind wing; b, left mandible in dorsal view; c, ditto in ventral view; d, left maxilla in ventral view; e, labium in ventral view; f, median lobe in dorsal view; g, ditto in lateral view; h, tegmen in dorsal view; i, tergite 8 in dorsal view; j, sternite 8 in ventral view. Scale A (1.0 mm) for a, B (0.25 mm) for b-e, C (0.25 mm) for f-j.

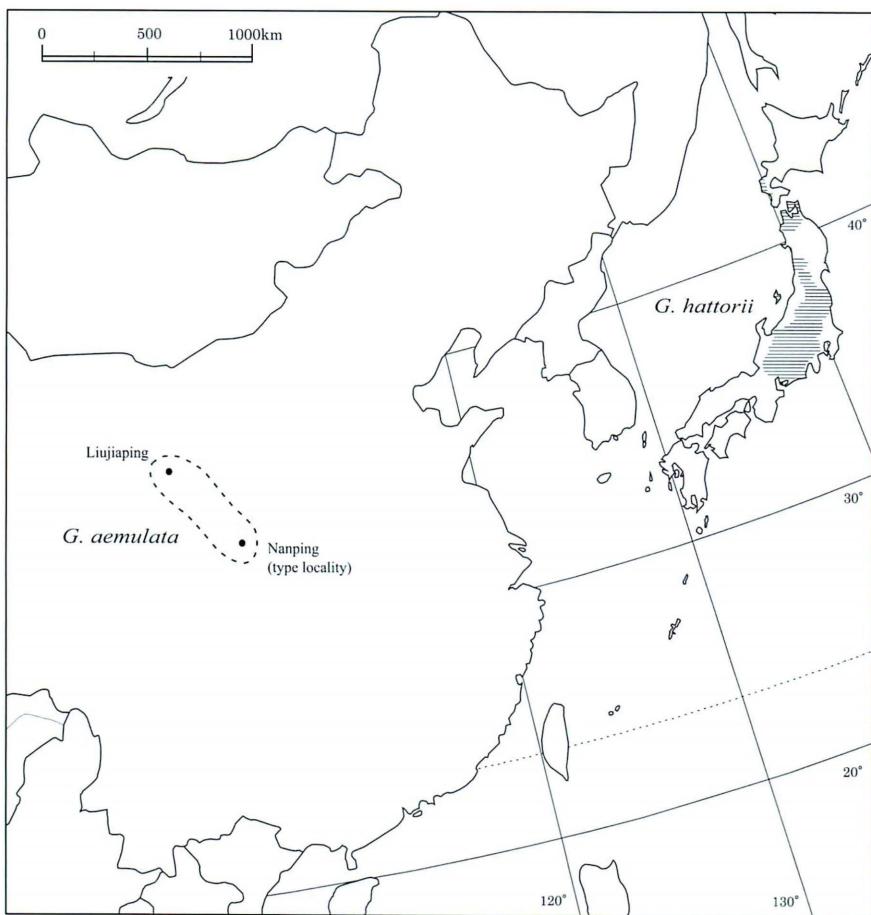


Fig. 7. Distribution of *Glaphyra (Yamatoglypha)* species.

original description made on the specimens from Sichuan. *Glaphyra aemulata* may occur rather widely on higher mountains of western to northwestern China.

*Glaphyra aemulata* almost perfectly agrees with the Japanese *G. hattori* and is barely distinguished by the slender body form, especially in the longer antennae and pronotum. It is very interesting that such close similarities are found between two isolated species from eastern Japan and western China; the origin of *Yamatoglypha* may be rather old within the members of *Glaphyra* in spite of the highly specialized body structure.

#### Acknowledgements

I wish to express my indebtedness to Dr. Shun-Ichi UÉNO for his continuous guid-

ance and for reading the original manuscript of this paper. Special thanks are due to Dr. Nobuo OHBAYASHI of Ehime University and Dr. Wen-I CHOU of Taiwan University, Messrs. Kyōji ICHIKAWA, Norio ISHIHAMA, Hideaki MIURA, Masashi TAKEDA and Ken YOSHIKAWA for their lending or offering the invaluable *Glaphyra* material used in the present study, and also to Dr. Yasuaki WATANABE and Mr. Hitoshi HATTORI for their kindness in giving me detailed information about the holotype of *Molorchus hattorii*.

### 要 約

新里達也：クロツヤヒゲナガコバネカミキリの分類学的考察ならびに新亜属の記載。——クロツヤヒゲナガコバネカミキリは東日本にやや局的に分布する種で、幼虫はグミ類（バラ科）の専門食として知られている。本種は、一見すると黒色で目立った特徴の少ないヒゲナガコバネカミキリ類であるが、触角第3節以降に細微毛を備え、前胸腹板突起が退化して見かけ上消失し、後翅臀脈が1本の縦脈 (1A<sub>3</sub>+2A) で構成されるなどの特異性が、新里(1992)によりすでに指摘されてきている。これらの一連の形態は、ヒゲナガコバネカミキリ属のいかなる種とも明確に区別でき、本種と近縁種に固有の派生形質と考えられるため、本種を基準種に新亜属 *Yamataoglaphyra* (クロツヤヒゲナガコバネカミキリ亜属；和名新称) を創設した。

新亜属の構成種は東日本のクロツヤヒゲナガコバネカミキリとともに、中国西部から比較的最近になって発見された *Glaphyra aemulata* の合計2種が知られている。この2種は大陸中央部と日本列島東部にそれぞれに隔離された分布域をもつが、形態的にはきわめて近縁で、わずかに触角や前胸背板が長いなどの点で区別できるにすぎない。大陸と本州に遠く離れて孤立した集団が、このように形態的分化の低い状態にあることはたいへん興味深く、多くの派生的な形質をもつクロツヤヒゲナガコバネカミキリ亜属の起源が、予想外に古いものではないかという可能性を暗示している。

なお、クロツヤヒゲナガコバネカミキリの正基準標本の紛失したことが保管者により証明されたために、本論文のなかで、基準標本系列の岐阜県産の副基準標本を後基準標本に指定した。

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